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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,597	09/11/2000	Steven P. Larky	0325.00418 CD117	4974

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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application N .	Applicant(s)	
	09/658,597	LARKY ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the c ver sheet with th correspondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 September 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Catalyst Enterprises, Inc., "SBAE-10 Bus Analyzer-Exerciser User's Manual and Analyzer/Exerciser/Tester specification sheet (henceforth "Catalyst") in view of U.S. Patent No. 5,177,630 to Goutzoulis et al.

Catalyst discloses an apparatus coupled between a host computer, acting as a low speed tester, and a USB device under test (User's Manual, page 6) wherein the apparatus is configured to allow the tester to perform tests of the device at higher or lower speeds, as needed, than that of the tester exclusively through the apparatus (Specification Sheet, page 1, columns 1 and 2 and User's Manual, pages 1 and 24). Catalyst discloses that the apparatus, interfaced with the USB device, can either emulate the host or the device (Specification Sheet, page 1, line 3). Catalyst discloses using the tester through the apparatus to control the transmission, reception (i.e. input and output), and verification of the USB device operation and using the apparatus to test these operations and indicating the results as a pass/fail signal with respect to the USB compliance specifications (Specification Sheet, page 1, column 1 and User's Manual, page 2).

Catalyst also teaches a tester function to control the apparatus/host emulator to initiate test packets for a transmission/reception loop as well as verifying the packets or forcing packet errors to the USB device for correct operation verification (User's Manual, page 33 and pages 39-40). Finally, Catalyst discloses that the apparatus is configured to perform one a plurality of test modes (User's Manual, pages 17-18) over a USB 1.x or 2.0 environment (Specification Sheet, page 1, lines 1-2).

As noted above, the invention of Catalyst teaches all the features of the claimed invention except for including a test vector generator for generating test vectors for controlling the testing speed of the apparatus.

Goutzoulis et al. teaches a method and apparatus for generating and transferring high speed data for high speed testing applications by transferring low-speed input vectors (i.e. vectors at a first speed) to the test device which triggers specific components to adjust the delay (column 2, line 60 to column 3, line 7) and generate high-speed test vectors (i.e. vectors at a second speed faster than said first speed) for transferring the high-speed test vectors to a digital DUT (column 2, lines 50-54).

It would have been obvious to one having ordinary skill in the art to modify the invention of Catalyst to include a test vector generator for generating test vectors because while Catalyst describes a system wherein the speed of the device under test is automatically determined, Catalyst does not provide the corresponding method for performing this adjusted high-speed testing. Therefore, the combination of Catalyst and Goutzoulis, as suggested by Goutzoulis, would have provided method for producing the high speed vectors required by Catalyst in a method that

applies for very high speed devices, provides necessary tester interconnections, and allows precise control of required DUT input time delays (column 2, lines 25-30 and column 3, lines 8-13).

While the invention of Catalyst discloses communicating to and from the host device using a bi-directional interface as opposed to two separate interfaces (i.e. first and third) the Examiner takes Official Notice that two separate interfaces are a well-known functionally equivalent alternative (See for example, U.S. Patent No. 5,959,911 to Krause et al., column 3, lines 13-14).

Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the single bi-directional interface into two separate interfaces since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman, 168 USPQ 177, 179.*

Response to Arguments

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. The following arguments, however, are noted by the Examiner.

With regard to Applicant's argument that the invention of Catalyst fails to disclose or suggest a transmission/reception loop, the Examiner asserts that the invention of Catalyst discloses setting up loops that loop through a sequence of packets wherein

the packets are defined as transmitting and receiving data to and from a target (User's Manual, page 33 and pages 39-40).

With respect to claim 10, Applicant argues, "Catalyst appears to be silent regarding the USB Device Exercised verifying any test packets." The Examiner asserts that the target sends an "ACK" packet that verifies that it received the data without error.

With respect to claim 13, Applicant argues that "[d]espite the assertion on page 2, last three lines of the Office Action, Catalyst appears to be silent regarding generation of a pass/fail signal. To the contrary, Catalyst appears to provide test data to a user leaving the user to decide pass or fail." The Examiner first asserts that a "pass/fail signal' can broadly be interpreted as test data that indicates whether the device passes or fails. Secondly, the Examiner maintains that the referenced sections of Catalyst do provide the display of a pass/fail signal (Specification Sheet, page 1, column 1 and User's Manual, page 2).

With respect to claim 14, Applicant argues that "[i]n contrast, page 1 of Catalyst (specification sheet) states that the SBAE-10 is designed to be upgradeable to USB 2. Therefore, the March 2000 documents form catalyst do not disclose any details of the USB 2.0 specification that was not published until April 2000. In particular, Catalyst appears to be silent regarding USB 2.0 defined test modes for use in a production test environment as presently claimed." The Examiner maintains that the invention of Catalyst discloses a plurality of test modes applicable in the USB 2.0 environment since the invention of Catalyst specifically discloses a plurality of test

modes and, by indicating that the device is upgradeable to USB 2.0, Catalyst is disclosing execution of these test modes in USB 2.0.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

jrw
October 28, 2003

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800